Digital pedagogy: Finding the balance in an online learning and teaching environment

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Abstract

A recent small-scale qualitative case study conducted at the Queensland University of Technology (Irvine, 2004) investigated the issues faced by academics using online teaching environments in a tertiary setting. It found that academics were positive about their experiences in online teaching and the development of new pedagogical practice. This paper will present the findings of the study reinterpreted in terms of an activity system (after Engestrom, 1987) and in so doing, reveal the interactions and interdependence within this case, particularly the pivotal balance of human and technical support in the successful shift from traditional to online practice.

Introduction

As 'friendlier' and more robust technologies become available to support mediated learning environments, it is important to acknowledge that technical mastery is not the only adoption issue facing academics (Liu, Theodore & Lavelle, 2004). Of equal importance are increased or altered workloads, changing assessment processes, student engagement (Britain & Liber, 2009; Ellis & Phelps, 2000), increased time commitment, lack of incentives and support (Newton, 2003). A recent small-scale qualitative case study conducted at the Queensland University of Technology (QUT) investigated the attitudes and experiences of academics working within its Online Learning and Teaching (OLT) environment (Irvine, 2004). The findings of that study have been reinterpreted in this paper using Cultural–Historical Activity Theory (Engestrom, 1987) to break down the complexity of the environment and to contextualise the issues of concern as raised in the literature. The purpose of this paper is to determine how academics are achieving a balance between the often contradictory issues they are facing.

QUT's Online Learning and Teaching (OLT) environment is a Learning Management System designed to offer blended or flexible delivery aligned with contemporary constructivist pedagogy. It provides a centralised learning environment for the University's nine faculties, 1436 academic staff and 39,919 students (QUT, 2004). QUT academics are increasingly posting content to OLT spaces and supporting student learning through online communication. Through its 'legacy policy,' each unit of study offered by the University has a companion OLT site that is managed by an academic (the Unit Coordinator) with technical and curricular support provided on request and through structured workshop programs.

Reinterpreting the findings of the study

As noted, we have undertaken a reinterpretation of the findings of a small-scale study (Irvine, 2004) conducted at QUT for the purposes of this paper. Interview and survey data has been revisited and aligned to an activity system (see Figure 1) as adopted by and central to Cultural–Historical Activity Theory (Engestrom, 1987). Validation was achieved through independent mapping between authors with a high level of parity achieved. At its simplest, Activity Theory provides a cross-disciplinary framework for the analysis of data related to human practices which translates to a mapping of how individuals interact within a given environment. Cultural means, tools and signs mediate the relationship between the human agents and objects of the environment.

The elements of an activity system are subject, rules, tools, community, division of labour and object with each being oriented to an overarching outcome. In this instance, the outcome is related to the attainment of learning goals within the University. The interconnectedness of elements is shown in Figure 1.
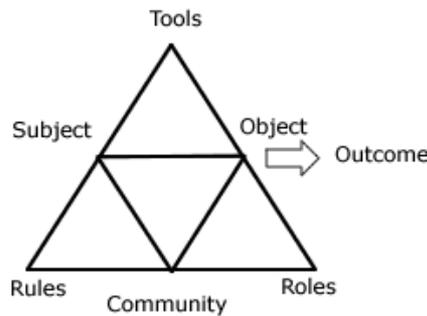
Figure 1: An activity system (after University of Helsinki, 2001)

Each of the components of the activity system will be addressed in an order that makes for a cohesive reading and the development of a structured argument in the following text of this paper.

A.   *Subject*

Through a process of identification of the academics with the highest number of service requests and feedback instances submitted to the OLT Support helpdesk and a series of initial conversations, four were eventually chosen to be the subjects for the case study. These will be referred to as Academics A, B, C and D. Each was from a different faculty (to be referred to respectively as Faculties A to D). While all were ICT enthusiasts, not all were early adopters of OLT, and for some, their initial use of the system stemmed from the necessity of following a faculty directive (as noted in D. *Rules*).

B.   *Object*

The object here was the development of effective individual OLT spaces created by academics with assistance from dedicated support staff. These spaces can be seen as the product of the combined component elements. Academics interviewed kept their OLT site designs simple and most had not used tools that required constant monitoring. This is indicative of a balance strategy as academics developed logistical responses to new pedagogical practices.

C.   *Outcome*

The outcome or over-arching goal here (as previously noted) was the achievement of University and individual learning goals through a mediated environment. All subjects shared a belief in the primacy of student engagement in learning and each had attempted to use the OLT system to create warm and positive learning environments. Academic C offered that, "I'm not a great technician …, but I was attracted to using … [OLT] because it solved … my teaching problems. It breaks down learning and thinking, enriches the learning environment, and provides opportunities for students." Academic B believed that accessing OLT was beneficial as "anything that cuts down on the time associated with information retrieval means they [students] are spending time actually engaging with the materials." For each subject, technology had changed the teaching practice but importantly had allowed the subjects to remain true to their fundamental beliefs about teaching and learning. With deliberate and considered action, balance was achieved between philosophical and technical.

D.   *Rules*

The rules that emerged from this re-analysis ranged beyond the expected governance compliance characteristic of large-scale and corporate systems. Academic workload and responsibilities were included in this element as involvement encompassed additional liaison and communication with students, managing student expectations regarding response times, learning new online tools and creating learning resources. Each action had an associated set of usually unwritten rules and incidentally and consequently raised issues related to *division of labour*. Academic C hoped that, with faculty support, "there will be … recognition that developing these activities actually takes time" while Academic A concurred that "it took time to initially set up an OLT site" and, most importantly, adding that "it is challenging … when you are working with a new wave of technology." The new digital pedagogy implicitly demanded a re-balancing of time allocation within an academic workload.

Rules also included the implicit and explicit conditions set for the use of the OLT system, that is, what the academic expected of students and conversely what students expected of the academic and other students. For example, Academic A wanted to move entirely to online delivery but felt that students still found face-to-face delivery methods valuable. Academic B similarly reported his preference to use OLT to deliver course material, but was unlikely to make this change because:

> Students feel that you are taking time away from them. Some students don't like it when … [they] are paying for it, [and] they feel they are getting less. It's like they have bought your time [and] they can't see the time you have put into maintaining the website.

E.   Division of labour

Revisiting the division of labour revealed an unexpected redefinition of the roles of academics and students. Academics were assuming greater technical control of their unit's OLT sites and were making increasing demands on technical staff to meet pedagogical needs. There were changes too in the roles of students who were seen to be increasingly juggling study, family and work commitments and spending less time on campus. The work of being a student and its relationship to other aspects of a student's life was being altered. In support of this, OLT assumed a position at an intersection of the activity systems representing University and home life. Twenty-four hour access to OLT meant that academics were 'on call' during evenings and weekends. The definition of a working day has been rewritten.

F.   Community

The element of *community* was evidenced through informal peer and systemic support within faculties and formal support provided by the OLT helpdesk and faculty-assigned instructional designers. The subjects in the study who felt their faculty supported and encouraged the integration of technology into their teaching reported having fewer problems than those with more limited support. Immersion in a supportive culture (or community) appeared to be central to success.

G.   Tools

The *tools* implicit within the OLT environment can be categorised as being: (a) technical, (b) operational, and (c) process. The technical and operational nature of tools became evident in the criticism that the Discussion Forum was cumbersome to instantiate and navigate, with Academic D offering that "it bugs the life out of me and the students. The number of steps seems so drawn out." The process nature of the same tool was evident in Academic B's refusal to use it with students because of a "negative experience a colleague had … where students were abusing the facility." The balance between human and technical was seen here as a snapshot of the OLT system as a whole.

- *Technical tools*

  Technical tools included the file upload facilities, text and image windows, discussion forums, chat rooms and specific OLT tools such as notepad, IMET and quizzes. The academics interviewed did not appear to be intimidated by the tools on OLT. This may have been attributed to their familiarity with OLT and ICT in general or the design of the tools themselves. Subjects agreed that the tools were intuitive and not overly complicated. They were confident exploring what had been developed knowing that OLT support could be relied on for help when and if needed. The subjects in the study were, however, not unconditional in their praise. Academic A offered that "[there are] no students using the glossary tool, [so I] don't know why they spent hundreds of hours [on it]." Academic B similarly queried the value of the quiz tool saying that it represented a "kind of factual learning I find trivial."

  Academic A thought that new tools were not being produced quickly enough. There is an uneasy tension between technology for its own sake and an evolutionary development and dissemination of technologies to meet emergent needs. Concerns were also raised about the thoroughness of the testing of new tools. The example given was of the quiz tool with the subjects, interestingly, acknowledging their potential role in the needed testing. The subjects also noted that new tools, including conversions of old tools, can place additional workload burdens upon academic staff.

- *Operational tools*

  Operational tools included written support (in the form of an online manual), workshops and training support for academics. There was unanimous praise for the services offered by OLT Support. Academic D elaborated that, "[I] usually just ring OLT support and they tell me straight away." Academic B noted the advantage of communicating directly with OLT support staff rather than using the manual by saying that "[you] look through the manual and … know what you want to do but you

may not know the technical term for it." Academic D stated "[the] technical support is fantastic" and described OLT Support's responsiveness as being "flawless … [and] efficient" while Academic B offered that OLT Support staff "tell me how I can do it myself without making me feel like … a cretin."

- *Process tools*

    Process tools are intangible and included the teaching 'tools' of exposition, question and answer, and discussion. These processes are made possible by technical and operational tools. Criticism of the effectiveness of discussion forums and chat rooms (as process) was generally linked to the participation of students and the effect of assessment on student engagement. It was felt that, if these tools were not used for assessment, the level of participation, engagement and quality of discussion by students would deteriorate. In contradiction to this, it was also noted that the level of contribution could also be trivial when mandated by the demands of assessment.

Conclusion

What has been revealed in this reinterpretation of case study data through Activity Systems Theory is that the issue of developing and using mediated learning environments is a complex, challenging and ongoing process. It has also shown that technical mastery is only one component and issue to be faced by academics and that a redefinition of roles and rules is taking place. Individuals need to balance technical and human elements in the achievement of learning goals and maintain fidelity with existing beliefs about teaching and learning as they come to terms with an emergent digital pedagogy. A robust environment in which reliable and immediate technical support is available and an industrial environment which is considerate of altered work practices and conditions emerge as fundamental factors in the success of individual's adopting and developing effective mediated learning environments.

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